
Stem cell therapy treats HIV, basis for two CIRM disease teams

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There's a lot of buzz today over a paper in the journal *Blood* declaring a man who has come to be known as the "Berlin patient" cured of HIV.

The same patient was featured in the New England Journal of Medicine in February 2009. A man infected with HIV needed a bone marrow transplant for his leukemia. The doctors gave him the transplant from a person who was naturally resistant to HIV infection. The donor's bone marrow cells contained a mutated protein called CCR5, which is required for HIV to enter the cell. This follow-up work presents the results of numerous tests that failed to find evidence of remaining HIV infection.

In the paper, the authors write: "In conclusion, our results strongly suggest that cure of HIV has been achieved in this patient."

This story discusses an interview in a German publication in which the Berlin patient discusses the difficulties he faced during the course of the treatment. Although I don't read German, the English summary of that interview makes it clear that bone marrow transplant is not an easy answer, and that making the transplantation more tolerable needs to be part of a future therapy.

The Berlin patient is the basis for two different CIRM disease teams. Although the therapy was a success, there aren't enough donors who lack CCR5 to provide bone marrow for all people with HIV infection. Instead, the CIRM groups are removing the patient's own bone marrow and attempting two different approaches at manipulating those cells to remove CCR5 function. They will then give the modified bone marrow back to the patients, hopefully providing a life-long resistance to HIV infection.

Here are summaries of the CIRM disease team awards at City of Hope and UCLA. We also have a video about the technique, featuring the lead researcher at City of Hope and HIV/AIDS advocate Jeff Sheehy, who serves on the CIRM governing board.

A.A.

Tags: Disease Team, HIV/AIDS, Zaia, University of California Los Angeles, city of hope, Chen

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